

The Macdonald Journal

JUNE 1979



Quebec Provincial Plowmen's Association

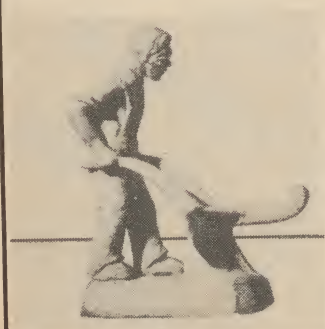
a farmer's association

- to promote good plowing and improved soil management**
- to provide in-field farm machinery demonstrations**
- to promote improved agricultural techniques and research in Quebec**
- to cooperate with government, agribusiness and universities to further the above objectives.**

Provincial Plowing Match and Farm Machinery Demonstrations

Provincial Agricultural Research Station, St-Hyacinthe

August 22, 23, 24 & 25, 1979



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JUNE 1979

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In This Issue

Cover by Magella Chouinard,
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Journal Jottings

When Professor Bruce Coulman of
the Department of Plant Science
brought in his article on "Forage
Mixtures" for the March 1978 issue
of the Journal, he told me that he
would like to schedule one for June
1979. A few weeks ago after we
had discussed his piece on "Anti-
Quality Components of Forage
Crops," which you will find on page
3, we switched to talking about red
clover. I have seen several
references to this particular crop of
late, and Professor Coulman agreed
that an article incorporating red
clover should be scheduled for next
year. I mention this one instance —
and there are more — for two
reasons.

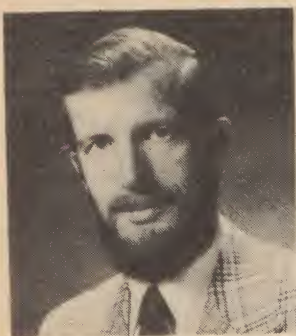
First, I find that the summer months
when Staff are freed from teaching
duties are the ideal time to plan ad-
vance material. Thus, as the time to
visit with various contributors is ap-
proaching, I know that we already
have at least one article to be
scheduled.

The second reason is that when I
approach these busy people, I
realize that I am asking them to in-
crease their workload — to write an
article that brings them neither
monetary nor scholastic reward.
When someone writes for the Jour-
nal it is because he or she wants to,
not has to. They are willing to share
their knowledge and ideas with
others.

You can imagine, then, the added
pleasure we get from those who are
not asked but volunteer to write for
the Journal. Fortunately, this is often
the case, and one example is the ar-
ticle "Permission to Hunt!" Of add-
ed interest is the fact that the
author, John Viau, is not a Staff
member; he is one of our sub-
scribers who felt that he would like
to make a contribution to our pages
that he hopes will be of benefit to
his fellow subscribers.

This being International Year of the
Child, we thought you would be in-
terested in another instance of car-
ing and sharing. Last summer, Pro-
fessor Florence Farmer of the
School of Food Science, attended
an International Nutrition Congress
in Brazil. When I spoke with her
before she left, she said that she
was certainly looking forward to the
Congress and to a tour that she had
planned, but for her the highlight of
the trip was to be a visit with her
foster child in Colombia. We were
delighted when Dr. Farmer agreed
to share her visit and her impres-
sions with us.

Hazel M. Clarke



Editorial

Macdonald Journal Survey

Some of the Macdonald Journal readers may be contacted within the next few weeks to participate in a readership survey conducted by the Extension Department. The survey is sponsored by the Secretary of State of Canada under the Student Community Service Program. It is part of an evaluation of a rural community newspaper readership survey in progress throughout several communities in Quebec. Since the Macdonald Journal is one of the publications included in the survey, it gives us the opportunity to gather ideas and suggestions about the Macdonald Journal so that we may improve the information channelled to our readers. Your response will assist us to establish future policies for the Journal. Such readership surveys are part of a regular program for the media. Unfortunately, the small-circulation papers with their limited and dispersed clientèle, as is the case of the English reader in Quebec, do not have the resources to execute such surveys on a regular basis.

The role of an English regional paper is becoming increasingly important to sustain a cultural identity within the community it is intending to serve. This survey, which is made possible through government assistance, will enable the readers

to voice their opinion about the publications. The information thus gathered will enable the papers to fulfill their role much better.

Provincial Plowing Match

This year the Provincial Plowing Match and Farm Machinery Show will be held in Ste. Hyacinthe from Wednesday, August 22nd to Saturday, August 25th, hosted by the Agricultural Research Station of the Ministry of Agriculture. The Station is located between the Quebec Artificial Insemination Centre and the I.T.A. Agricultural School on Sicotte Street.

The event is one of the larger open air agricultural activities organized on a provincial basis in Quebec. The plowing match has prospered from a small event implicating a few people interested only in plowing to a major agricultural extension program designed to inform the farmer on the latest technology in agricultural land preparation, harvesting, storage, etc. Most of this equipment can be seen in action in the field and evaluated. However, the plowing competition continues to be a major attraction. In the past year, over 3,000 farmers have had the opportunity to participate in various plowing clinics organized throughout the province. These instructions in plowing techniques have enabled the farmer to improve land preparation

and seedbed management, not to speak of the fuel savings realized by proper equipment maintenance and adjustments. The plowing clinics were organized jointly by the Extension Department and the Quebec Provincial Plowing Association, and financially supported by the Co-op Fédérée du Québec.

The Agricultural Research Stations also play a major supportive role. Every year the Plowing Match is held at different Research Stations in Quebec. It gives the Research Station an opportunity to familiarize those involved in agriculture with their projects and activities.

Through the efforts of the Home Economists of the Ministry of Agriculture, various educational displays are arranged to inform the consumer of our Quebec food resources. There are interesting tips on food preparation.

The Ministry of Agriculture, the Quebec Provincial Plowmen's Association and the Extension Department of Macdonald College are waiting to receive you at the Plowing Match to keep you better informed on present trends in agriculture.

Martin van Lierop
Editor

Anti-Quality Components of Forage Crops

by Professor B. E. Coulman
Department of Plant Science

Many thousands of plant species contain chemical constituents that are toxic to man or other animals. These constituents may cause minor disorders of the nervous or digestive system or they may be extremely toxic, causing sudden death. The reasons for the existence of these compounds in so many species are not well known. In some plants they seem to be waste products of normal life processes. In other species, these toxic substances seem to give plants a competitive advantage in natural species mixtures, as animals will tend to avoid consuming them.

Forage crops are certainly not free of toxic compounds. Many of our common grasses and legumes contain low levels of these substances. They may cause reduced intake of the forage and subsequent reduced weight gains in the animal consuming the forage. In a few cases, however, the death of the animal has occurred. Fortunately, in species containing toxic compounds, they are usually present in such low levels that animal problems are seldom encountered. This article will focus on some common forage species that contain "**anti-quality**" components and on the effect that these constituents have on the animal.

Alfalfa

Although it is one of the world's most productive and widely grown forage species, alfalfa can cause problems to the ruminant animal. Perhaps the most serious problem caused by alfalfa is **bloat**. In this disorder, a stable foam forms in the rumen which does not allow gases to escape by belching. The rumen becomes very large and this even-



Alfalfa is one of the most productive and widely grown forage crops. Bloat can be a serious problem and is caused by the soluble protein fraction of alfalfa. Diagrams courtesy Canada Department of Agriculture.

tually results in the death of the animal.

A recent study on bloat has placed the annual economic loss in the United States in excess of 100 million dollars, with a calculated annual death loss of approximately 0.5 per cent of the cattle population.

Bloat usually occurs only in animals grazing pastures containing a high percentage of alfalfa and is seldom a problem with alfalfa hay or haylage. It is now generally accepted that bloat is caused by the

soluble protein fraction of alfalfa. This type of protein, although it is partly responsible for the good nutritive value of this high protein crop, is released rapidly in the rumen from consumed fresh alfalfa, and causes the foam formation. At present, a breeding program is underway at the Agriculture Canada Research Station in Saskatoon with its goal to produce bloat safe alfalfa. Management techniques that minimize the occurrence of bloat include the use of a grass-alfalfa mixture instead of a pure stand of alfalfa for pasture and the supplementary feeding of dry grass hay to grazing animals. In both cases, the grass tends to "dilute" the high soluble protein content of the alfalfa.

Alfalfa also contains low levels of a compound called **coumestrol** which has **estrogenic activity**. Some work in Israel has identified irregular estrous cycles and ovarian cysts in cattle grazing alfalfa. This is one of the few reports of such problems, and the alfalfa plant usually only contains sufficient levels of coumestrol for an estrogenic effect when leaves have been infected by leafspot fungi.

As well as the negative aspect of causing reproductive problems, estrogenic compounds are known to increase liveweight gains in cattle and sheep. A synthetic estrogen, diethylstilbestrol (DES) was used in beef feeding, but has been banned due to evidence that it can lead to tumour production. Thus it was felt that the presence of coumestrol, a natural estrogen, in alfalfa, and also clovers, could increase liveweight gains in animals feeding on these forages. There has been very little data to indicate any increased gains, as the estrogenic activity of alfalfa is usually much lower than that produced by administered DES.

Saponins are another class of compounds found in small quantities in the alfalfa plant. These compounds do not seem to affect ruminant performance, but depressed growth rates have been observed in chicks whose diet included dehydrated alfalfa. Alfalfa meal is highly valued in poultry rations, but it should not make up a large part of the ration. At present, there are programs in the United States to breed low saponin cultivars. There is some evidence, however, that saponins may give the plant some protection against insects.

Red and White Clover

Red and white clover contain levels of soluble protein similar to those of alfalfa, and thus also can cause bloat in the ruminant animal. As with alfalfa, the inclusion of a grass in a pasture seeding of clovers, will help reduce the problem.

These clovers also contain **estrogenic compounds**, but again, they are generally not present in sufficient concentration to be harmful to grazing animals. In Australia, however, subterranean clover, which is a relative of red and white clover, can accumulate high contents of estrogenic compounds. This has resulted in a high incidence of reproductive failures in ewes.

Sweet Clover

Sweet clover is a high yielding biennial legume species that is not widely grown in eastern Canada due to its intolerance of acid soils. Its major utilization takes place in the prairie region of Canada and the United States. It is used mainly for hay production and also as a soil improving green manure crop.

When animals consume sweet clover hay that has spoiled, they may develop "sweetclover bleeding disease". This is due to a compound in the plant called **coumarin** which is converted to **dicoumarol** by certain microorganisms that cause hay spoilage. Dicoumarol interferes with the blood clotting mechanism and

the animal may bleed to death from internal hemorrhages.

Fortunately, low coumarin cultivars of sweet clover are now available. Bleeding disease is not a problem when these cultivars are utilized, but they are somewhat lower yielding than high coumarin cultivars.

Sorghum

Forage sorghums or sorghum-sudangrass hybrids, although not important crop species in eastern Canada, are useful in supplying emergency herbage. If, due to seeding failure or other reasons, a shortage of forage is anticipated, sorghums can be planted around mid-June to supply a high yield of forage by mid-August. The sorghums are utilized mainly as pasture or green chop, and proper management is critical. The sorghums contain **glycosides** which, when the plant is subjected to stress, release **prussic acid** (or **hydrogen cyanide**). Cyanide, of course, is a very strong respiratory poison. Thus, the forage sorghum should not be utilized for several days after a stress such as a prolonged drought or a fall frost. As well, hydrogen cyanide levels tend to be high in very young growth. Thus, sorghum forage should be avoided during these periods, but under normal conditions can be fed without problems.

Other species containing glycosides that can release hydrogen cyanide are birdsfoot trefoil and white clover. In North America, there does not seem to be any cases of cyanide poisoning in cattle grazing these species, as levels of hydrogen cyanide are usually very low. In New Zealand, however, there have been some cases of cyanide poisoning in animals grazing white clover.

Reed Canarygrass

Reed canarygrass is a species that is particularly well adapted to the wetter soils of eastern Canada. It is a high yielding species that responds very well to nitrogen fer-



Reed canarygrass is particularly well adapted to the wetter soils of eastern Canada. Its major problems are due to the presence of alkaloids.

tilization. It has high levels of protein and digestibility if cut at or before heading. However, after heading it becomes very coarse and fibrous.

Although it is agronomically a good species, it is not particularly palatable when compared to many other grass species. In other words, if given a choice, animals prefer timothy or brome grass to reed canarygrass. As well, there have been reports of animals not gaining particularly well when grazing pastures of reed canarygrass.

These quality problems have been found to be due to the presence of **alkaloids** in reed canarygrass.

Alkaloids are nitrogen containing compounds that can have an effect on the animal nervous system. Some examples of alkaloids that many people consume every day are nicotine from the tobacco plant and caffeine from coffee or tea. A number of illegal drugs are also alkaloids, including the hallucinogen, LSD. Reed canarygrass contains a total of nine alkaloids, which are very different than those mentioned above. One of these alkaloids, DMT, which is found in very small amounts, has been illicitly sold as a hallucinogen by drug pushers in the United States.

Plants of reed canarygrass that are free of seven of these alkaloids have been identified. It has been shown that plants that are free of these seven alkaloids are more palatable and result in improved weight gains in the grazing animal. At present, there are breeding programs underway at Macdonald College and the University of Minnesota to produce adapted cultivars that are free of these seven alkaloids and have lower concentrations of the remaining two. Two preliminary strains have been selected at Macdonald and these are entering regional agronomic trials in Quebec. As well, a grazing trial has been established at Nappan, Nova Scotia, to compare these new strains with standard cultivars of reed canarygrass. We are hopeful that the quality problems of this species can be overcome and that reed canarygrass will become a more important species in eastern Canada in the future.

The Fescues

There are a number of fescue species which are used as forage crops. Red fescue is better known for its use as a turfgrass, but is present in many unimproved pastures in eastern Canada. Meadow fescue is utilized as a pasture species in Europe, while tall fescue has some use as a pasture grass in the east-central United States. Tall and meadow fescue are sometimes used in pasture seedings in eastern Canada.

Like reed canarygrass, the fescues are not considered to be high quality forage species. Tall and meadow fescue are not particularly palatable species, and animal performance on tall fescue pastures has often been poor. A number of **alkaloids**, different from those of reed canarygrass, have been identified in tall and meadow fescue. One of these alkaloids has been found to inhibit the activity of the rumen microorganisms. Thus, by slowing down the rate of digestion and subsequent passage of feed through the animal, the overall weight gains would be decreased. Programs are now underway to try to select tall and meadow fescue cultivars with lower alkaloid concentrations.

Summary

Many of the forage species commonly grown in North America contain toxic compounds or anti-quality components. These compounds are often present in such low levels that no problems are encountered in animals utilizing the forage. If concentrations are high enough, various management techniques can be employed to minimize the problems.

Selected References

1. Matches, A. G. (ed). 1973. Anti-quality components of forages. Crop Science Society of America Special Publication No. 4.
2. Reid, R. L. and Jung, G. A. 1973. Forage-animal stresses. In Heath, M. E., Metcalfe, D. S. and Barnes, R. F. (eds.) **Forages: The science of grassland agriculture**. Iowa State University Press.

Silage Additives

Experiments have been conducted on the use of Silo Guard (International Stock Food Corp.) for promoting desirable chemical changes (during silage fermentation and subsequent storage) and for preservation of certain nutrients. The results suggest that SILO GUARD exerts a beneficial effect on the fermentation process; this was evident from temperature measurements that were made during fermentation on the control silo (no additive) and on the test silo (SILO GUARD added).

Subjective evaluation of the silage from the control and the test silos indicated that the silage which was treated with SILO GUARD was lighter in colour and possessed a better odour than did the control silage. Detailed chemical analyses showed that adequate acidity was developed in the silage during fermentation to assure good keep quality and that protein levels were maintained during the storage period.

Professor Bruce E. Baker
Department of Agricultural
Chemistry and Physics

Take Them or Leave Them?

by Professor S. M. Weber
School of Food Science

Should I be taking vitamins? Which vitamins should I be taking? How much of each vitamin should I be taking? If I take vitamins, are they going to improve my health? If I take too many vitamins, will they endanger my health? If you have been asking yourself these questions, you are not alone. Interest in vitamins is as keen today as it was in the 1920s and 30s when they were being "discovered". Modern nutritionists may feel that contemporary issues such as obesity and the controlling of heart disease are of greater nutritional importance than a concern with vitamin intake, but the public still attaches a great deal of significance to the role of vitamins in maintaining good health.

Of course vitamins are necessary for good health and when one is **DEFICIENT** in one or more vitamins, a poor state of nutrition will result. But the important word to note in the previous sentence is "deficient". I believe that very few Canadians are really deficient in vitamins. We can receive all the vitamins we need from the food we eat. Diseases caused by a lack of vitamins are often referred to as deficiency diseases because the food which has been eaten over a period of time is deficient in one or more vitamins. People who have a very limited food intake are therefore more likely to have a vitamin deficiency disease than those who eat a variety of foods. A poor food intake is the basis of a vitamin deficiency disease.

History has taught us that vitamin deficiency diseases may occur in whole populations because of their limited food intake due either to their particular food habits or to the unavailability of certain food items. For example, scurvy, a disease

resulting from a deficiency of ascorbic acid (Vitamin C) is caused by a lack of fruits and vegetables in the diet. No wonder that the early settlers in Canada developed scurvy in the late months of winter when they ran out of their stored fruits and vegetables. We don't have that problem today because our nearest grocery store has ascorbic acid captured in the form of fresh, frozen, or canned fruits and vegetables, or we can just reach into the freezer and take out the garden produce that was put by last summer. No, it isn't likely that a limited food supply would be the cause of a deficiency of ascorbic acid in Canada.

On the other hand, food habits which deliberately limit food intake can be responsible for vitamin deficiency diseases. Over several centuries, rice has been the staple item in the diet of many people in the Orient and everyone ate white or polished rice — it wasn't popular to eat brown rice. However, when brown rice is milled, the removal of the outer covering also removes thiamin, a vitamin of the B-complex. A deficiency of thiamin results in a disease called beri-beri and over several centuries thousands of persons died of the disease.

A similar type of situation existed in Canada during this century because most of us preferred white flour and bread to whole wheat products. When money for food was in short supply, bread played an increasingly important role in the diet as other more expensive items were eliminated. As a result, some Canadians showed symptoms of the disease beri-beri because they were lacking the vitamin thiamin. In fact, it became such a serious matter that the government of Newfoundland declared that all white flour should be enriched with thiamin. The process of enrichment for cereals, flour, and rice is used in many parts of the world today, in-

cluding Canada. Consequently, beri-beri is infrequently found even though people eat highly processed products from which the thiamin has been removed.

Many people wonder if the thiamin added to processed grain products has the same nutritional value as the thiamin found in whole grain products. In other words, are synthetic vitamins as good for you as the vitamins found naturally in food? The answer is yes! The body doesn't differentiate between the two forms and will readily accept either of them.

Today, many products other than bread and cereals are enriched with vitamins. For example, margarine has Vitamin A added to it, making it more like butter, and apple juice has ascorbic acid added to it; thus it is more like orange juice in terms of nutritive value. However, one has to be cautious about the value of a product just because vitamins have been added. There are some fruit drinks on the market which have ascorbic acid added to them, but otherwise they are just sugar, water, and flavouring. These products contribute ascorbic acid to our daily vitamin intake, but they are missing all the other vitamins and minerals and therefore should not be thought of as adequate substitutes for orange juice or apple juice. It really comes back to the earlier statement. Foods contain all the vitamins we need and if a variety of foods is eaten, an adequate intake of vitamins is ensured.

However, there are many vitamin preparations available today, and vitamins can be purchased singly or in multi-form as liquids, tablets, or capsules. When the public see vitamins offered for sale, the implication is that we don't get enough of them in the available food. The reasons as to why people buy vitamins are varied. Some people

PERMISSION TO HUNT!

buy them because of apprehension. They see the vitamins advertised and assume that they need them. Advertising creates a need. Some people buy them as insurance believing that if a little is good for you, a lot will be better. But it doesn't work that way. The body has just a minimum need for vitamins and if an excess is taken, it is either stored or excreted in the urine. If food is supplying all the vitamins that are needed, the taking of vitamin supplements is just wasteful. Furthermore, it could be dangerous.

The fat soluble vitamins, Vitamin A and D, are stored in the body and if excessive amounts are taken over a period of time, the body cannot handle them and illness results. Why do excessive intakes occur? Mothers may give their children extra vitamins for insurance, but they may be doing them more harm than good. Over a period of time, the vitamins accumulate and illness follows. Occasionally, an over-zealous mother may mistakenly give her infant a very large amount of Vitamin D in one dose and this, too, can cause harm to the body.

Excessive intakes of the water soluble vitamins such as ascorbic acid, thiamin, and other members of the B-complex do not have such a deleterious effect. The body excretes the vitamin it does not need. Both the vitamin and the money spent for it can be wasted! Recently there has been an interest in taking large or megadoses, as they are called, of some of the water soluble vitamins. The effectiveness of vitamins in curing diseases, such as the common cold, has not been demonstrated and so the practice of taking megadoses of vitamins is still very much in question.

What is the answer then to the query — vitamins — take them or leave them? Well, we really can't leave them because our bodies need them, and the easiest way to take them is in a variety of foods.

by John A. Viau

Farmers in the Chateauguy Valley, where I make my home, have a rather large problem on their hands. The problem is the continued and incessant trespassing on their farms in the summer and fall by hordes of hunters from the Montreal area. The more "No Hunting" signs you put up, the more, it seems, hunters show up to either shoot them full of holes or take them home for souvenirs.

The problem is quite serious and seems to be getting worse every year. If you raise ducks, geese, guinea fowl, chickens, pigeons, turkeys, goats, sheep, rabbits, or anything else that even remotely resembles something wild, then when hunting season arrives or, to be safe, preferably a week or two before the opening of hunting season, you had better be certain that they are locked up safely in the barn. Either that or be prepared to mount a 24-hour watch on your livestock.

Over the last few years a neighbour of mine has lost to hunters 2 turkeys, 22 guinea fowl, 3 geese, 4 Muscovy ducks, 6 Rouen ducks, 5 Mallard ducks, 4 pigeons, and more chickens and banties than he cares to remember. A short while back he almost lost, but for my intervention, a pair of goats that were cropping grass a scant 40 feet from his barn. I noticed a strange car parked on the highway and walked over to the barn just in time to stop a young man of about 20, who was about to shoot at the goats with a 12-gauge shotgun. Whether or not he was really sincere in his claim that he believed that they were wild goats I'll never know. After about 20 minutes of trying to convince me that they really were wild goats, he rather dejectedly returned to his

partner in the car and off they went, tires screeching — possibly in search of more wild goats, or wild sheep, or wild Holsteins!

There is also the aggravation of gates left open, strayed livestock, stray bullets zinging around the property, tin roofs mangled by shotgun pellets, strange cars and trucks blocking your driveway when you return home from a trip to town, damaged machinery, stolen fruit and vegetables and, last but not least, the ever present danger of assault by an angry hunter to whom you have denied access to your land. If you should be unlucky enough to encounter a belligerent hunter, who won't take no for an answer, simply tell him that you don't want to argue with him, and that if he persists, you will have to telephone the police. If he fails to leave, do just that.

Please don't get the impression that I am anti-hunting. That is certainly not the case. What I am anti is not hunting but slob hunting, which by my definition describes the wild goat hunters and chicken and turkey shooters.

These hunters have been a part of the local agricultural scene for many years but, unfortunately, like many other agricultural pests, they seem to be increasing at a rather alarming rate lately, and nowhere has that increase been more evident than in the Chateauguy Valley.

On the other side of the ledger, hunters — or perhaps I should say gentlemen hunters — are faced with an ever-declining area in which to practice their sport, due to a very large extent to the other type of hunter who gives the sport such a bad name. If you are a landowner and have your land posted "No Hunting" or "No Trespassing", the only type of hunters that you are going to

encounter are the slob hunters who don't care whether your land is posted or not. The decent sort will just drive by your place and mutter away to himself because he has one less place to hunt.

In Ontario, there has been a lot of talk lately about trying to get a law enacted so that a hunter would have to get written permission from a landowner on whose property he wishes to hunt. There already is in force in Ontario a law requiring written permission from the landowner if you wish to trap on his land. Possibly some time in the future laws similar to these may be enacted in Quebec. Personally, I hope so, because I think it would open up a whole new era in farmer-hunter relationships. What many hunters do not understand is that farmers have specific reasons for posting their land — bad experiences with hunters, valuable livestock pasturing in their woodlot.

Is there a solution? Well, I think there is a partial one, but let me hasten to add that it will not solve the problem of the wild goat hunters who, like bank robbers, will always be with us. The only solution to them is the speedy arrival of the local police force. Despite all the harm that farmers suffer at the hands of hunters, the hunter still can have a lot to offer to the farmer. The problem is for the farmer to be able to direct the hunter in the right direction.

What does the hunter have to offer to the farmer?

The Chateauguay Valley agricultural community is a leading producer of corn and along with corn production has come a proliferous little pest, the Redwinged Blackbird. The Redwing is prospering all over the Chateauguay Valley, and one of the reasons that he is prospering is because he is being so well fed by the local farmers' corn crop.

According to an article in the *Montreal Star* on Friday, August 2, 1975, there are a half million Redwings in the Beauharnois region alone, and

they are consuming or destroying 15 per cent of the local corn crop, thereby causing some \$400,000 in damages. In an article in the *Macdonald Journal*, March, 1976, Professor Rodger Titman states, "Shotgun patrols are expensive and time consuming but if conducted on a regular basis they are effective." In an article I wrote for *Outdoor Life Magazine*, August, 1978, page 47, I state in part, "Quebec hunters can find some exciting pre-season wingshooting southwest of Montreal. This is one of Quebec's prime corn-growing areas, and it is plagued by huge flocks of blackbirds. **Permission** to hunt is usually granted by farmers. New acquaintances made now may also pay off in **permission** to hunt ducks or geese on the same land later in the year." Notice the key word in my article, **permission**.

Once a farmer has given permission to a hunter to hunt, then he knows that the hunter is on his property. He can direct him as to where to park his vehicle so that it will not be an obstruction. He can ask the hunter's name and jot down the licence number, along with the make, model, and year of the vehicle for possible future reference. The farmer can inform the hunter that he has cattle pasturing in a certain area and to please avoid that area. He can inform the hunter that agricultural operations are being carried out in this field or that and to please be careful and, most certainly, he can direct the hunter to a huge flock of blackbirds that have been devouring his corn crop for the past week.

Many of the hunters who practice their sport locally are of Italian or Greek origin, and they like nothing better than a good feed of blackbirds. They don't mind expending a box or two of shotgun shells to collect the makings of a good meal. Remember that a box of shotgun shells costs a minimum of \$4 and thus it costs them in the neighbourhood of \$8 to \$10 for their feed of blackbirds.

Once you have established a cordial relationship with these hunters, you can expect to see them often and

the benefit in dead blackbirds will soon become apparent. Remember, too, that once you know them on a personal basis, there is much less likelihood of them doing any damage on your farm or even in the immediate neighbourhood. There is always the possibility, as well, of selling them some garden produce, fruit, fresh eggs, milk, chickens, and so on.

Later on in the year they will almost certainly ask permission to hunt wild ducks, wild geese, partridge, and rabbits. If you have had no trouble with them thus far, why not say yes. Once again, remember that an acquaintance is less likely to do you harm than is a total stranger who has a grudge against you because your land is posted.

Permission to hunt other small game which can be a nuisance to the farmer — fox, raccoon, woodchuck — could also be given, but first be certain to check the legal implications in your region. Generally, in southern Quebec, these pest species can be shot legally (with appropriate weapons) without restriction. Once again the magic word is permission.

If you're a farmer and you think you might be able to tolerate hunters a little more if they were of the gentlemanly variety, then here is a suggestion. If your farm is now posted, take down the signs and in their place put up signs reading more or less as follows:

"Hunting is allowed on this farm if you ask permission of the owner. Enquire at the house."

And the same message in French:

"Pour chasser demandez la permission au propriétaire."

Why not give it a try? Perhaps you should hang onto those "No Hunting" signs in case it doesn't work for you. You can always put them back up again, but I hope you don't have to.

CORN YIELDS AS AFFECTED BY MACHINERY TRAFFIC AND TILLAGE OPERATIONS

by Dr. Satish Negi
Department of Agricultural
Engineering

In recent years, there has been a significant increase in the traffic of heavy machines over arable fields. Numerous studies indicate that machinery traffic, and the compaction which it produces, can have detrimental effects on the fertility and structure of the soil, particularly when the water content is high. The importance of soil structure for plant

growth cannot be overstated since it totally governs the fluxes of water and air to the plant root. That is to say, the structure determines such soil physical properties as water availability and aeration, as well as the soil impedance to root growth. Consequently, severe damage to soil structure brought about by wheel traffic will be reflected in stunted plant growth and diminished yields. In addition, the weather conditions during the growing season, especially variations in rainfall, exert a pro-

found influence on the growth and yield of crops. However, the problem of maintaining a soil structure suitable for plant growth can be alleviated by improved tillage efficiency and reduced soil compaction.

In 1977, a project was begun under the supervision of Professor Edward McKyes at Macdonald College to study the effects of vehicle traffic and tillage operations on soil physical properties and plant yields. The research was supported by the



A winged tool attached to a narrow rigid shank was used for subsoiling in the research project.

Quebec Ministry of Agriculture and involved Professor Vijaya Raghavan, Dr. Esther Douglas and Frances Taylor, along with Professor McKyes and the author. An experiment was conducted in the summer of 1978 for a second year in which 64 individual field plots were set up on a Ste. Rosalie clay soil. These plots were seeded with silage corn after 16 specific tractor traffic and tillage treatments causing varying degrees of soil compaction or loosening. The compaction treatments comprised different numbers of machine passes over the same place at different ground contact pressures of the machine. Some of the field plots were subsequently loosened by moldboard ploughing and discing, chiselling, and subsoiling by a winged tool. During the growing season, measurements were made of soil physical and hydraulic properties, plant growth parameters and crop yields.

The results of these experiments showed that there was a strong dependence of the plant growth and crop yields on the soil structure and water retention characteristics of the soil. The traffic and tillage treatments caused discrete differences in the days required for germination, tasselling and silking, as well as in plant heights during the growing period. The field plots that were compacted and then subsoiled produced superior yields to the other tillage treatments. A rototiller treatment, without machinery traffic, produced the best yields.

A comparison of these results with those of the previous year's indicated that crop performance differs depending on the seasonal weather. This underscores the importance of controlling the soil physical state, especially in years of varying precipitation. It was found that a narrow range of soil dry density produces the best silage crop yields in a relatively dry season. In a wetter year, the change in yield is

less pronounced with varying soil density, and the optimum density range is lower than that for a dry season. Also, in a wetter season, the level of machinery traffic seems to have a more drastic effect on crop yields. For instance, a reduction of more than 50 per cent was found in the yield of corn from clay soil plots subjected to over 10 passes of a 4000 kg tractor.

From all these observations, it would appear that subsoiling offers considerable promise for fields which have suffered excessive soil compaction. Such an operation can improve the hydraulic conductivity and water retention properties of the subsoil with a consequent amelioration of crop growth. Finally, it is recommended that all possible measures should be taken to avoid repeated passes of heavy machines over arable fields in order that soil compaction and the deterioration of soil structure below the plough layer be minimized, especially in clay soils.



Above: Soil density measurements were taken with a gamma ray density meter (Troxler Model 3401). Below: Differences in plant heights in two field plots subjected to 15 passes and one pass of a 4000 kg tractor.

Fostering Hope

by Hazel M. Clarke

November 1971: "Ana's is the world of Buenaventura's outskirts slums where the Pacific tides serve as a garbage dump, children's playground, and 'real estate' for the rotting shanties perched on stilts above the fetid inlets."

June 1978: I also tell you that I am very happy because at the school they told my father that I am doing well and I will be promoted . . ." signed Ana.

A paragraph of despair; seven years later, a sentence of hope. What happened in the interval? Thousands of miles from Colombia's coastal city of Buenaventura, Professor Florence Farmer of the School of Food Science became Ana's Foster Parent and thus by financial assistance to Ana, she is helping not only the child but also her family and her community. They know that someone they had never met cares about their present needs and their future — a wonderful incentive for they themselves to try a little harder. Of the more than 30,000 Foster Parents in the Foster Parents Plan of Canada (PLAN), few have an opportunity of meeting with their foster child, but last summer, while on a trip to South America, Florence Farmer made a very special detour and visited with Ana, her mother, sisters, and brother.

"After being connected with someone indirectly for so long, when I found that I could go and visit her I was delighted," Professor Farmer told me. "What has thrilled me all along is that I am connected with one particular child. I receive a picture every year and I can see that this is the child whom I am supporting. I can see the changes through

the years as she gradually grows up; she's 12 years old now."

Initially Professor Farmer took over her mother's support of a boy in Hong Kong and continued that assistance for a couple of years until he became 16, an age when he could support himself. "I was asked if I would like to be assigned a new child and I was only too glad to do so. You can state a preference for a boy or a girl and a specific country, but I feel that if a child needs help, then I am only too pleased to give it — no matter what the child or what country."

PLAN have two criteria: The first is that the children and the families must be among the very needy; the second is that they must show a desire to help themselves. Unfortunately, there are some people that are so poor that no matter how much help they got, they could not rise above their present level. "My foster child is in high school," Dr. Farmer said, "and her younger sisters are in school. This is a tremendous step forward as far as the family is concerned. The parents have not had any education: the father, Mr. Avincula is a labourer, and his wife is a washer woman. One of the disappointments is that there are few jobs for these children even when they do get some kind of an education. On the other hand, there is a much better chance if they are educated."

They do not have free education in most of the countries that PLAN operate in, and many children do not get any education at all. Thus Foster Parents' money goes toward school fees. Money also goes toward food and clothing, household goods, school supplies, medical and dental care, counselling and guidance by trained social workers,

and educational programs. The money not only helps the individual child, it also helps the parents and the community.

"A question that is often asked," Dr. Farmer told me, "is how much money is used for administration and so forth. Roughly 85 per cent of total support income is spent on services and financial aid for children and their families, as well as administrative expenses for field offices. Operating expenses for Canada and International headquarters is approximately 11 per cent and about four per cent for public information and public education — the vitally important task of seeking new foster parents. There is a great need for them," Florence Farmer continued, "because if someone cannot continue supporting a foster child, then PLAN continues the aid until the child either gets another foster parent or becomes self-supporting. This is a drain on their general funds and thus they are always looking for new foster parents, either groups or individuals."

Not all foster parents have an opportunity, although they may, to visit in person with their foster child as did Dr. Farmer, but there is personal contact through letters and cards. All communications go through the central office in Toronto. Letters have to be translated and, as Dr. Farmer pointed out, "gifts cannot be sent. I used to send them but was asked to stop because of pilfering — they never reached the child. PLAN will accept money above the specified annual amount and they will buy gifts. They send us a list of gifts suitable for the children. We may choose from that list, and they will buy the particular item."

Letters are the main means of communicating and Ana's are sweet, excited notes, often accompanied by her own drawings. The children are asked to write to their foster parents once a month. "I buy post cards from the various places I visit and send these off to her. This has brought her a great deal of pleasure. We also remember birthdays and Christmas and the special days that they celebrate. Ana, for her part, has shared special things with me. She told me how upset she was when their dog died. Then there was great excitement because, after three girls, the mother was expecting another baby and it was a little boy."

How wonderful to receive such news as "I tell you that I spend a nice and happy Mother's Day because my mother is alive and we were all together and gave her a bunch of flowers and a kiss on the forehead (and then, without stopping for breath), my favourite food is fish, there are many different ways to prepare it." Or "I greet you fondly and hope that you are well. I am very glad because Christmas is coming up soon. I send you a Christmas tree. I hope you will enjoy it."

One of the disappointments is the length of time that it takes for mail to go back and forth — about six months. This is because of the tremendous volume of letters, all of which have to be translated. It is something that Dr. Farmer hopes will be remedied. As well as the correspondence, Florence Farmer receives an annual progress report from PLAN. It tells of the children's work at school, of any family medical or dental problems, of any renovations or repairs done to the home. It is a family report because, as Florence Farmer points out, "We could call them a foster family ex-



Ana seems to delight in drawing, and many of her letters are accompanied by colourful and cheerful work such as this Christmas card.

cept that people like to be associated with a particular person, and therefore they pick one child in the family."

Written communications are one thing but an opportunity to be able to meet in person is special, indeed, and so it was that last summer when Dr. Farmer planned to attend

the International Nutrition Congress in Rio de Janeiro, Brazil, she also planned to visit her foster child in Buenaventura, Colombia.

"I was going on a tour for two weeks before the Congress, and therefore I knew that I would be within a reasonable distance from Buenaventura. I left the tour in Car-



Above: Professor Florence Farmer, Ana, and the social worker, Vilma de Garces, who acted as interpreter. Below: Ana, her mother, sisters, and young brother pose for a photo to mark the occasion of this happy visit.



tagena, Colombia, and it took me about 24 hours because I first had to go to Cali. I had written ahead and arranged for the trip and PLAN

provided me with a driver. The driver and a PLAN nurse, Elise Baril, who comes from Quebec, met my plane, which was very late, and we

drove about 70 miles down hills and through tunnels in the mountains. It was beautiful country, and I found the drive extremely interesting because we were following the river all along. The drive took about 2-1/2 hours. The nurse and the social worker, Vilma de Garces, came with me to the Avincula's home. It was raining when we got there and, because my plane had been late, the father finally had to leave. However, the mother was there and the children were still all dressed up. They were delighted to see us, and we spent a very pleasant hour or so talking — through the interpreter. The mother is obviously very devoted to her family, and they are all healthy, happy children. Dr. Farmer explained that she had a very silent drive back to Cali as the driver spoke only Spanish. Arriving at their destination, they met the Director Ed Schiffer and, as he spoke both Spanish and English, the three of them went out for a pizza supper.

Life is very bleak for many of the people of Buenaventura. The city is over-populated and under-developed. That bleakness will take many years to erase, but because of the work being done by such organizations as the Foster Parents Plan of Canada through individual and group support such as that given by Florence Farmer, a ray of sunshine does occasionally break through.

Still contemplating just what benefit was derived from the recent International Women's Year, Dr. Farmer was somewhat reluctant to be too optimistic about this year's International Year of the Child which was initiated by the United Nations. "If it really and truly brings some focus on children, then it is bound to help. It can't do any harm."

For the millions of Ana's in the world we hope it will, for childhood is a precious time and the more precious it is for the child today, the better will be all our tomorrows.

The Family Farm



Published in the interests of the farmers of the province by the Quebec Department of Agriculture.



THE QUEBEC MINISTER OF AGRICULTURE, JEAN GARON, LAUNCHES THE "VILLES ET VILLAGES FLEURIS DU QUÉBEC" AND "MAISONS FLEURIES DU QUÉBEC" COMPETITIONS

During the coming summer, every municipality and amateur gardener in Quebec will have a chance to earn distinction at the regional and provincial levels through their concern for the environment and the use they make of plants to beautify their surroundings.

On April 21, the Quebec Minister of Agriculture, Jean Garon, launched two new competitions designed to confer cash prizes and honorary mention of municipalities or individuals helping to make their environment "blossom."

Inaugurated by the ministère de l'Agriculture du Québec, these competitions will be recognized, in cooperation with that Department, by the Fédération provinciale des sociétés d'horticulture, an organization comprising about 100 local horticultural societies and 25,000 members. The two competitions are called "Villes et villages fleuris du Québec" and "Maisons fleuries du Québec."

A sum of \$90,000 has been granted by the ministère de l'Agriculture du Québec to carry out this project in the summer of 1979. This sum includes operating subsidies totalling \$70,000 to the Fédération provinciale des sociétés d'horticulture for setting up a permanent secretariat in the Quebec City region and doing the necessary paper work.

In addition, a sum of \$29,999 has been put at the disposal of the ministère de l'Agriculture for prizes to award-winning municipalities in the Villes et villages fleuris competition.

Villes et villages fleuris: a matter of municipal pride

Municipal pride will be a key factor in the Villes et villages fleuris du Québec competition, which will appeal for close cooperation from mayors, municipal councils, and local organizations, such as horticultural societies, 4-H Clubs, young naturalists' clubs and citizens' committees which are interested in beautifying the environment.

As a first step, the interested organization asks the municipal council to participate in the competition and offers its help in carrying out the project. The municipal council may then take the necessary steps to enter the municipality for the competition and obtain the required documents.

The municipal council then authorizes the initiating organization to publicize the competition and also offers its help to provide soil, trucks, flowers etc. The aim of the competition is to embellish public as well as private property.

For the selection of the winners, Quebec has been divided into 14 regions, i.e., the 12 Quebec agricultural regions and the Quebec and Montreal urban communities. Within each of these regions, a regional jury will determine the village or parish municipality (less than 5,000 inhabitants) and the city (5,000 inhabitants or more) whose citizens, with the help of their local administrators, have done more to beautify their environment with flowers and landscaping.

In each region, the winning village or city will receive \$1,000 and an honorary certificate from the ministère de l'Agriculture du Québec. To encourage better competition in metropolitan zones, districts or urban sectors of cities with over 30,000 inhabitants will be allowed to compete in the class of cities up to 5,000 inhabitants or more.

The next step will be the choice by a national jury of the leading "floral" city and village in Quebec from among the regional winners. The two winning municipalities will each receive a prize of \$2,500 and the right to install and maintain, at the entrance to the municipality, a sign reading "Ville fleurie du Québec" or "Village fleuri du Québec."

The house with the best flowers

Every municipality participating in the Villes et villages fleuris du Québec competition must undertake to organize for its citizens a local competition to choose the house best adorned with flowers in the municipality. The role of the Fédération provinciale des sociétés d'horticulture would then be to provide technical help to the cities and villages concerned and to set the minimum conditions for the competition to be recognized.

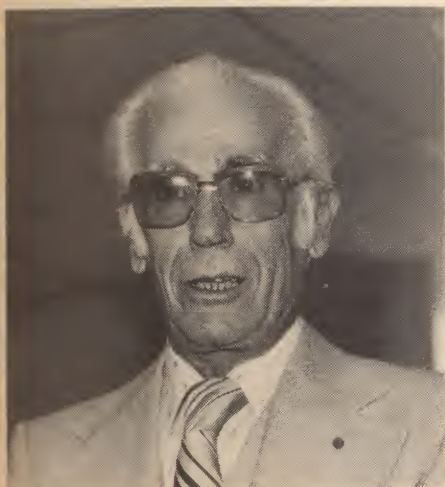
For example, municipalities may take into consideration only floral and landscape embellishments visible from the street. They must also form a committee under the chairmanship of the mayor or a person designated by him to decide the best adorned house in the municipality. The name of the winner will be announced at a civic reception.

The Villes et villages fleuris and the Maisons fleuries competitions will

complement the holding in 1980 at Montreal of the first Floralties internationales in America. This joint project of the ministère de l'Agriculture du Québec and the City of Montreal and the launching this year of two competitions should justify one and all in saying that 1980 will be the year of Quebec in full bloom.

A FULL CAREER

Jean-Baptiste Roy, agronome with the ministère de l'Agriculture du Québec, has just retired after 39 years in agricultural journalism.



Born at Saint-Vallier (Bellechasse), Mr. Roy studied agriculture at the Institut agricole d'Oka and then went on to the Hautes Etudes Commerciales. In 1940, he was appointed head of the Publicity Office for the ministère de l'Agriculture du Québec. Ten years later, he was engaged by the Coopérative avicole du Québec. He collaborated on the monthly publication "L'Aviculteur québécois" until 1959 when he went to work for the Coopérative fédérée de Québec. He became responsible for the space devoted to the Fédérée in "La Terre de Chez Nous."

In 1962, Mr. Roy returned to the ministère de l'Agriculture du Québec, this time with the Service de l'Information et des Recherches. From 1963 to 1966, he was press attaché to Alcide Courcy, then Minister of Agriculture. In 1966, he was president and secretary of the Agricultural Merit Competition and,

since 1967, coordinated the technical work of the publishing sector of the Service and edited the annual report of the ministère de l'Agriculture du Québec. For eight years, he devoted a good part of his time to the supervision of agricultural courses televised over Radio-Canada.

Mr. Roy has held many posts with agricultural and scientific organizations. For four years, he was editor-in-chief of "Agriculture", the information publication of the "Ordre des agronomes du Québec". He is also the author of several books and brochures. In 1975, he was named Farm Journalist of the Year and, in 1976, he was awarded the decoration of the "Ordre du mérite agronomique."

GASOHOL COULD HOLD NEW HOPE FOR QUEBEC GRAIN CORN PRODUCERS

by Gabriel Gabreau, agronome, Regional Office, Chateaugay

We have been advised not to mix alcohol with gasoline, especially when driving. However, from now on, we will be combining gasoline with alcohol derived from grain-corn to make a mixture which will be used as a propellant for motor vehicles.

Marcel Hudon, a specialist in corn crop protection in Quebec and in charge of the corn program at the Research Station of Agriculture Canada at Saint-Jean says, "For the past few months, gasoline for motor vehicles with an admixture of alcohol derived from corn has been on sale in the American Midwest, especially in Iowa and Illinois. The mixture, which is called "Gasohol", contains 90 per cent gasoline and 10 per cent alcohol derived from grain-corn."

The question now being asked is whether this new gasoline can be commercialized throughout the United States. If so, grain-corn remains the multi-purpose plant with a bright future not only in the United States but also for grain-corn production in Canada and Quebec.

Let's hope so.

SWINE SALMONELLOSIS

by Philippe Demers, Director by interim, Veterinary Service

Swine Salmonellosis has been infesting the piggeries of commercial hog raisers in the region north of Montreal.

The Veterinary Service has set up a study committee of veterinarians recruited from the Faculté de Saint-Hyacinthe and from veterinarians working with the provincial integrators and epidemiologists.

In view of the failure of curative medication, strict hygienic measures are recommended both in farrowing pens and piggeries.

A group of students from the Faculty, under the guidance of the members of the above-mentioned committee started on May 14 to carry out the investigation and research.

The data gathered and the results of laboratory analyses will be processed and will be used in preparing the prevention program which will be suited to the needs.

At the same time, research is being started to find out the efficiency of vaccination in this case.

I think it is important to add that part of the group of students will proceed with the investigation of bovine salmonellosis which has affected over 200 herds during the winter.

MACHINERY ELIGIBLE FOR SUBSIDIZED WORK

If a farmer requests financial aid from the ministère de l'Agriculture du Québec to carry out land improvement this year, he must make sure that the machinery used by the contractor he chooses will satisfy the Department's standards of quality for such work. This verification will be easy because machinery and equipment approved by the Department will in future bear a special number, clearly identified and very visible. This "qualification number"

must also appear on all invoices or documents used in this connection.

Campaign to ensure qualified machinery

Transport and spreading of lime on farmlands, subdrainage, digging of artesian wells, mechanized works such as clearing, stone removal, levelling, mounding up of lands, surface drainage, straightening of line ditches, and work on farm roads and roads into maple groves and woodlots — all these operations are classed as land improvements for which a farmer may obtain the Department's financial aid if he satisfies the eligibility criteria and makes the appropriate application.

In order to make sure that the equipment and machinery function so as to give good results to the farmer who undertakes such land improvements with the Department's help, a Machinery Qualification Campaign has just been launched by the ministère de l'Agriculture du Québec.

Each contractor who owns heavy machinery must immediately register each machine he intends using to carry out, in 1979, such work for duly recognized farm operators who are eligible for subsidization. During April, a notice to this effect appeared in newspapers. A team of employees of the ministère de l'Agriculture du Québec will check on the spot the machinery thus offered and issue a "qualification number" for each of the machines deemed acceptable on the basis of certain criteria.

Farmer's Responsibility

A farmer who has work done and expects to be subsidized for it must make sure that the contractor he chooses used one or more machines bearing a "qualification number". This number appears on a self-sticking transfer which is weatherproof and placed in a very visible spot. It is made up of five figures: the first two denote the agricultural region and the last three the number of the machine. The farmer must make sure that this number appears on the machine

and he must take note of it so that he can give it to the Department eventually. If he does not do so, he will not be reimbursed.

TREATMENT OF ALFALFA SEED

by Lucie Larose, agronome

In spite of important restrictions, verticillium wilt, the most important of all alfalfa diseases, has been detected in lots of seed coming from the United States and being marketed at present in Canada.

To avoid losing nearly two thirds of your hay crop and spreading this disease in Quebec, you must treat all the alfalfa seed in your possession.

Treatment

Thiram 75 at the rate of 5.3 ounces of this product per 100 pounds of seed. Prepare a mixture according to the manufacturer's instructions. This treatment in no way affects the inoculant, especially if it is applied to the seed after inoculation.

A few ounces of thiram to save two thirds of your crop; that is an excellent investment!

PURITY OF MILK AND WATER: MOBILE LABORATORY MAKING THE ROUNDS IN QUEBEC SINCE APRIL 17

In order to reduce the incidence of antibiotic residues in milk intended for milk plants, the Food Inspection Branch of the ministère de l'Agriculture du Québec has been using, since April 17, a mobile analytical laboratory, which will make it possible to test milk for antibiotics and the water which is used on farms, for purity. The laboratory's tour will last until fall. Two specialists from the Laboratoires d'analyses et d'expertises of the Food Inspection Branch and an inspector of dairy products make up the laboratory team. This mobile unit will first visit the agricultural regions with a greater incidence of antibiotics in milk and will comply with

the requests of dairy plants having difficulties with recalcitrant milk producers.

Method of Analysis

To detect antibiotic residues in milk, the laboratory personnel must subject samples of milk to a rapid test for penicillin (an antibiotic very frequently used in human and animal medicine). Most of the other antibiotics used can also be detected.

Analysis of Water Used on the Farm

Under an agreement between the Environment Services and the Food Inspection Branch, the latter is responsible for testing the bacteriological quality of water used on farms. This is to make sure that the water drunk by dairy cattle and used to clean milking equipment does not affect the quality of the milk. The mobile laboratory will also carry out this type of analysis.

Effect of Antibiotic Residues in Milk

Thanks to the laboratory, contaminated milk will be quickly detected and eliminated before a much larger volume of such milk is produced and finds its way into the milk plants' tanks (a tank contains about 200,000 pounds of milk which can be used to make 20,000 pounds of cheese) or before it causes trouble for the consumer.

This infringement to the Dairy Products and Dairy Products Substitutes Act greatly harms the industry by perturbing the processing methods, among which is the making of cheese. Moreover, the presence of antibiotics in milk creates problems for the consumer who absorbs it regularly; it may cause a certain form of allergy.

Milk of Quality

Only 181 milk samples out of 21,604 analyzed this year showed antibiotic residues whereas, three years ago, there were more than that. Through this new initiative, the ministère de l'Agriculture du Québec hopes to reduce even more the incidence of antibiotic residues in milk.

QWI

Executive Visit

At the November Executive meeting of the Quebec Women's Institute, it was decided that the President and the 2nd. Vice President, Mrs. Lewis Henderson, should visit the Magdalen Islands this spring. After consideration, the President suggested that she should visit the Counties of Gaspé and Bonaventure at the same time.

As the Magdalen Islands had not been visited by a member of the Executive since its formation in 1974, we arrived in time to help them celebrate their birthday.

After 50 minutes flying time by Quebec Air, we landed at Havre Aux Maisons. The scene as the plane came down is a picture that will long remain with us, and words are inadequate to describe the dark blue lagoons, the white sand dunes, the red soil and the green-blue of the St. Lawrence.

The Magdalens are located in the gulf of St. Lawrence about 180 miles from Gaspé, 70 miles from Prince Edward Island, and 55 miles from Cape Breton Island. The Islands are approximately 70 miles long and a paved highway encircles the islands. There is a population of 15,000 with approximately 10 per cent being English.

We were met at the Airport by Mr. and Mrs. Ernest Keating. Many of you will remember Mrs. Keating, as she has been at our Annual Convention. Mrs. Keating took us on a tour of the Islands. They have their own modern hospital, shopping centres, to say nothing of the country stores which carry a good supply of everything. The perishables are brought in from the mainland by boat and air. There are both Catholic and Protestant Schools.

The children are bussed in. There are 3 Anglican Churches and 6 Catholic Churches. There is a Public Health Nurse. They have their own Generating Station.

Most of the fishermen are grouped in cooperatives. They have their own canneries, smoke-houses, and freezing plants. The herring season had just finished and the lobster fishing was starting the following week.

The Keatings live on Keatings Point on Grosse Ile, very close to Leslie. This point was named after Mr. Keating's great great grand-father and dates back to at least 1826.

Mrs. Keating's family were all sea captains and her brother is the First Mate on the Ferry Lucy Maude Montgomery which crosses from Souris, P.E.I., to the Magdalens. This crossing takes 5 hours.

The Keatings' son, David, took us in the evening to Grand Entree, which is the end of the Island, and showed us where he would be fishing. This is known as Old Harry Head. He explained that each fisherman was allowed 300 traps. Each one has their own fishing area and all are numbered. He took us to the cannery where his fish would be processed. The name "High Liner" was very prominent.

We were then escorted to the home of Mrs. Creighton Richards for the Institute Meeting. This was the home in which Mrs. Westover had stayed when she helped organize the branch five years ago.

This is a very enthusiastic group of ladies. Last year, they were instrumental in having all the wells tested on the Island, and this year they are planning a "Heritage" program, when old cemeteries will be cared for. They hope to repair

broken monuments, repair fences, and take information off the monuments of the first settlers, to get a history of the community.

Most of these ladies are very busy; several work in the fish plants, but still all find time for their Institute projects and handicrafts.

Following the meeting, delicious refreshments were served, which included a beautifully decorated cake celebrating their 5th birthday.

Mrs. Henderson and I were each given souvenir plates and spoons as mementos of our visit.

We were made to feel very welcome with the Keatings' and were reluctant to leave. However, all good things must come to an end.

The weather was bright, very mild, and many of the gardens had already been planted. Mrs. Henderson and I hope to return to the Island with our husbands for a holiday in the near future.

We returned to Gaspé by air and on Friday evening a special meeting of Gaspé County took the form of a dinner. This was served in the Anglican Church Hall and was catered for by the United Church ladies. The tables were beautifully decorated with blue and gold candles and there were 76 people in attendance. The Master of Ceremony was the newly elected County President, Mrs. Dion. Mrs. Sudard, immediate Past President, had planned this event.

Following the delicious meal, the gathering formed groups and answered a quiz on the Handbook. A question and answer period followed.

Mrs. Henderson and I had the opportunity of bringing greetings, and we were each presented with beautiful paintings, typical of the Gaspé, and painted by one of the younger members, Mrs. Thelma Paterson, who was in attendance.

The following morning, we made our way to Port Daniel to attend the annual meeting of Bonaventure County. This meeting was held in the Arena and was presided over by the County President, Mrs. Oliver Watt.

Mrs. Cameron Dow, O.B.E. was in attendance. She had recently celebrated her 93rd birthday and was given a standing ovation.

The articles for the J. and P. Coats Competition and the Q.W.I. Competition, as well as an article for Quebec Expo were on display. Many beautiful articles and book marks were turned in to go to Saskatoon. A delicious dinner was served to 48 members and guests.

I have often heard about the friendliness in the Gaspé Peninsula and now I can vouch, too, to that.

Due to the flooding conditions, we had travelled to Gaspé by way of the north shore but we were able to return by the South shore and the Matapédia Valley. I enjoyed my visit very much, and I hope to return some day to renew acquaintances.

Ina Kilgour,
President,
Quebec Women's Institutes.

Spelling Success

On April 19, Mrs. Albert Coupland, branch Education Convener for **Granby Hill** WI presented prizes to four pupils at Parkview Elementary School. Teachers from the three Grade VIs had been contacted in December and were very cooperative in selecting one pupil from each class who had shown most improvement from Christmas until Easter in spelling.

A spelling bee was conducted in the three classes and the winning pupil received \$5, which was also the amount of the three other prizes. It

was interesting to note that all these pupils were French-speaking. One teacher said that her pupil had been getting 17 or 18 mistakes prior to the incentive to achieve and now is upset if she has one or two mistakes. Not only was the teacher pleased with her results but she said her entire attitude was entirely different.

The president, Mrs. A. Neil, and Vice-President, Mrs. N. Coupland, were present to offer their congratulations at the assembly of the three classes.

Dear WI Members

This is such a beautiful day, almost like one of those rare perfect days we have in June. As I walked home from the post office, the thought came to me that perhaps the reason these days are so special is because they arrive sooner in the season than we really expect them. Today, too, four publicity reports were in my mail box, so will get to work.

The majority of branches had many things in common this month: Plans were made for County conventions and for the Provincial Convention. Some branches purchased seeds for



Twenty-two members and one guest helped Miss Muriel Marshall celebrate her 91st birthday at Abbotsford's May meeting. The branch was formed in 1929, and Miss Marshall is a Charter Member.



Above: Mrs. John Byers, left, and Mrs. W. H. Rudd, both 51-year members of Stanstead North WI, recently received Abbie Pritchard Throws. Below: Branch President Mrs. Mildred Wheelock presenting a 50-year pin to Mrs. Miriam Osborne.

school fair gardens; others gave small gifts to members who had perfect attendance at meetings this past year. Book markers were being made for the FWIC Convention in Saskatoon. Some branches remembered friends at Easter with flowers or plants; others had completed the history of a pioneer woman in their area. CanSave was remembered and articles were brought in for the sales table at the Triennial Convention. Branches also report the \$1 for the Adelaide Hoodless Foundation.

We are very pleased to hear from **Rawdon** branch in Montcalm County. Their Publicity Convener, Joyce Asbil, writes: "Our branch has been quite busy over the past few months. We visited patients at Heather Hospital in Rawdon, showed a film and served light refreshments; at Easter called on patients at St. Charles Hospital in Joliette and gave each one a small gift. Two local families were completely burned out of their homes, and we were able to donate \$100 to each of them. This month we received a letter of thanks for our gift of a goat, from our adopted family in India. We are now planning our annual card party to help our depleted funds." Rawdon must feel very proud of the work they have accomplished recently.

Aylmer reports having an interesting meeting — all officers were re-elected. Miss H. Graham read a letter from a pen pal in British Columbia, and Mrs. A. Robinson brought an article for the J. & P. Coats competition. A contribution was made to the Quebec Service Fund.

A new member, Mrs. Allright, was welcomed by **Cowansville**. From **Dunham** we read that a Golden Anniversary Guest Book was presented to a member, Mrs. Carol Farnam and her husband who are celebrating this very important anniversary. A large amount of baking was brought in and a silent auction held with proceeds added to the funds. The **Fordyce** members voted to purchase a new Canadian and a new Quebec flag for the picnic area. Mrs. Jean Creasor, Education Convener, introduced Miss Doris Welch, who showed slides and gave a most

informative talk on her trip down the Nile River and in the country of Egypt. The carvings and paintings in the mosques and on the pyramids were magnificent. During the social hour a card shower and beautiful cake were presented to one of "our pioneer women," Mrs. Helen David, who was celebrating her 80th birthday the day of the meeting. Mrs. David is still active and extremely interested in ACWW and has held the convenship for ACWW for many years.

It seems a while since we have heard from Bonaventure County, but Mrs. Noble Nicol's report came in today. **Port Daniel** held a surprise party in honour of Mrs. Cameron Dow O.B.E., who is 93 years young. Congratulations Mrs. Dow! **Marcell** ladies held whist parties and presented trophies to the local schools. This branch celebrated their 31st anniversary and **Matapedia** their 25th. The latter group also presented three members with pins. The art of painting was demonstrated at the **Black Cape** group meeting, and lessons given in macramé at New Richmond West. Mrs. Vautier was guest speaker at the **Grand Cascapedia** meeting, the topic being C.L.S.C. One Life Membership was presented and this group reports that they are corresponding with the Peace River District WI in B.C. **Restigouche** supports a handicapped person in the community and money and clothing were given to two families who lost their homes and belongings by fire.

A new member, Mrs. Mavis Akroyd, was welcomed by the **Abbotsford** branch. The Education Convener gave a report re the McLellan Travelling Libraries. The Abbotsford municipal council, passed a motion which was sent to the Bibliothèque du Prêt de l'Estrie, requesting that the Travelling Libraries would continue to come to the municipality until a required library is set up. Mrs. E. Rowell, Home Economics, read an article telling how important it is to plan your estate, no matter how large or small.

At the **Gore** meeting, 25-year pins were given out to Irma Johnston, Betty Vogelsanger, and Joyce Husk.

At **Richmond Hill** begonia bulbs were given out to be judged in September. At **Richmond Young Women** an article was read on law reforms.

A detailed report was received from the Publicity Convener of Pontiac County. **Bristol** sponsored a student in Kenya and distributed gifts to the Ade Home. Although Fort Coulonge is a small group, they are very active. Handbags and new material were sent to CanSave, they supported Manoir Sacré Coeur in Fort Coulonge and St. Joseph's Manoir in Campbell's Bay, and pins and certificates were given to candy strippers. They also voted a donation to aid transportation for 4-H members from Wales. **Quyong** planned an anniversary dinner in April and held card parties to raise funds. Mrs. Davis received an Abbie Pritchard Throw. **Stark's Corners** is another active group. They sponsor a Korean child and have bought a hospital bed in memory of a deceased member. The ladies of this group also take their turn with the hospital cart. Then **Wyman** Branch, also active, sponsor a child in India. At one of the meetings, Mrs. S. W. MacKechnie told of her trip to Dunham to see the cairn erected in honour of the first WI in the province.

With tapes collected from the Dominion store, **Kinnear's Mills** decided to send for a 36-cup coffee urn, and it was reported at the meeting of **Inverness** that no raffles, drawings, or door prizes were to be given without a permit.

The Publicity Convener for Argenteuil County, Myrtle Thorburn, has always sent me excellent reports. One interesting item this month is that she has been invited to attend a 75th anniversary celebration at Ripley in Bruce County, Ontario, where the Lieutenant-Governor, the Honourable Pauline McGibbon will be the honoured guest. Following is more news from the various branches in the same county. **Brownsburg's** conveners' reports included some interesting facts: Canada's exports of fruits and vegetables are second only to those of the U.S.; school enrolment is

decreasing; smoking by a pregnant woman could cause brain damage in her unborn child; and the first woman mayor of Chicago, Mrs. Jane Byrne, has been elected with a resounding majority. Mr. and Mrs. George Connelly once more shared with the group a most enjoyable trip — this time to Portugal by means of slides, postcards, souvenirs, and glowing descriptions of the climate, scenery, customs, and the friendliness of the Portuguese people. At **Frontier's** April meeting, Muriel Owens read an article about the Dos and Dents of education for the bright child. They should be praised and listened to and disciplined as are other children in the family. June McAndrew introduced the guest speaker, Mrs. Grace White from the Lachute branch of the Bank of Montreal, who spoke of the different aspects of banking and of how things have changed since the switch to computers.

The annual membership of \$16 each was sent to the Douglas Hospital and to the School for the Mentally Retarded by the **Lakefield** WI. The ladies of **Grenville** will host the Argenteuil County Convention. The guest speaker for the evening was Mr. John Perry of C.R.D. Marelán, who gave an interesting talk on their plant. As well as telling the history of the plant, from the time the first magnesite was discovered to the present day, colourful slides were shown. This mine, situated in the Grenville area, is the only one in North America and makes furnace brick for very high degree smelters or furnaces. **Upper Lachute East End** started with a delicious potluck supper. As it was Grandmother's night, several poems were read and many lovely articles of handwork were displayed by the grandmothers in the group. Lynn Heggie told interesting stories of the early days of the group.

At the **Dalesville-Louisa** meeting, an interesting article was read on the ostrich fern, which is edible in the spring when it is six to seven inches high. They are called fiddle heads as they resemble the neck of a violin. They are nice in a tossed salad, raw, or cooked as a green

vegetable. They freeze well and can be transplanted to your own garden. From a booklet "Canadian Historical Wonders" — and close to us — we learned about the wonders of Lost River. It runs under Limestone Bridge, Lake Gate and Fraser Lake and is lost. **Jerusalem-Bethany's** Health and Welfare Convener, Mrs. McCaskill, introduced the guest speaker, Mrs. Stewart Jones, President of the Ladies Auxiliary of the Argenteuil Hospital, who gave a brief outline of the early history of the organization and of the many ways the patients benefit from the various services offered. The topic was interesting and the members of the Ladies Auxiliary spend many hours working for the betterment of the community's health.

At the **Aubrey-Riverfield** meeting a motion was made to donate \$75 to the Special Education class at Chateauguay Valley Regional for the purchase of an aquarium. A special plaque will be put on the gift with the WI as the donor. Highlights from **Howick**: a presentation of Canadian music and art by Mrs. Florence Crawford and Canadian painting by Mrs. Betty Nish. Stories, illustrations, and explanations combined to enhance a real interest in Canadian art that afternoon. **Hemmingford** ladies had a potluck luncheon to which senior citizens were invited. Gerry Rodgers, a member of the Chateauguay Valley Historical Society, always a welcome visitor, showed a selection of his delightful slides at this well attended get-together. The **Dundee** WI held a spring card party and much of the success of this event was due to prizes donated by local patrons. The April meeting of **Huntingdon** had as a roll call "name a possible improvement for Huntingdon" which provided lively discussion. The **Ormstown** branch and the Senior Citizens at Walshaven were guests of the **Dewittville** group.

Granby Hill reports that Mrs. Ossington continues to improve in health and hopes to be back at meetings soon. The following is another instance when WI works in cooperation with other groups in the community. A letter was received from Ligue des Femmes du Québec

asking members to work with them in WARP — Women Against Rising Prices. Foods to be boycotted that particular week were meat, imported cheeses, cookies, bananas, grapefruit, salad dressing, and canned ravioli. The group's membership was continued in the Douglas Hospital.

Matagami reports that the members were very pleased with the poster contest they had sponsored to honour the Year of the Child. Most of the posters made by the pupils in the French section of the school were on safety. In the English section, among them was one — What Makes Me Happy. Prizes were awarded in the name of the WI.

Following are some interesting roll calls: **Cowansville**, name an experience when you first started cooking; **Dunham**, tell of a good turn done to you by a friend; **Richmond Hill**, bring in used stamps for leprosy mission; **Spooner Pond**, what are your views on censorship?; **Shipton**, bring a loaf of bread and tell of your first bread-making experience; **Franklin Centre**, tell something that money can't buy; **Wyman**, tell about the first WI meeting you attended.

Financial obligations are always promptly and generously met by our organization. Some special ones must be mentioned: **Port Daniel**, donated money to the local arena and **Kinnear's Mills** to the local community hall. **Bristol**, \$500 to the Pontiac Community Hospital and to the Home on the Hill. **Wyman**, \$1,000 also to the latter home. **Quyon**, \$30 to Sister Patricia for the Peace and Development Fund, and **Clarendon** to the local hospital.

Following are some mottoes sent in: **Dalesville-Louisa**, a "sap" run is a sweet goodbye to winter and from **Waterloo-Warden** learn from the mistakes of others; you can't live long enough to make them all yourself. Then this thought appealed to me, "we like someone because...we love someone although..."

Gladys C. Nugent,
QWI Publicity Convener.

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